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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/663,269	09/18/2000	Johan Nilsson	040071-174	3896

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EXAMINER

APPIAH, CHARLES NANA

ART UNIT	PAPER NUMBER
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2686

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/663,269

Applicant(s)

NILSSON, JOHAN

Examiner

Charles Appiah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation of the limitation "determining how important it is that the transmit power control command is correctly received" in claims 1 and 12 make the claims vague and indefinite as it is not clear what constitute the relative term "how important".

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1, 2, 4-13 and 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kubo et al. (6,249,682)** in view of **Laakso et al. (6,603,773)**.

Regarding claims 1, 4, 12 and 15 Kubo discloses a method and an apparatus for controlling the energy at which a power control command is transmitted in a communication system including a at least one base station and at least one remote station (see col. 2, lines 30-36), comprising: determining how important it is that the

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transmit power control command is correctly received, wherein the step of determining how important it is that the transmit power control command be received comprises determining the difference between a measured quality of the received signal and a reference, wherein the difference indicates how important it is that the transmit power control command be received (see col. 6, lines 12-24). Kubo fails to explicitly teach setting the energy at which the transmit power control command is transmitted based on the determined importance ~~it is~~ that the transmit power control command is correctly received.

Laakso discloses a method for controlling the transmission power of certain parts of a radio communication transmission in which the reliability of power control information can be controlled to reach a desired level (see col. 3, lines 21-53). According to Laakso, the reliability margin is used to control the power control commands sent by all base stations involved in a micro-diversity connection and that the reliability margin can be different for different base stations (see col. 43-64, col. 8, line 61 to col. 9, lines 8-62, col. 11, lines 8-63).

It would therefore have been obvious to one of ordinary skill in the art to combine the transmission power control of power control commands teaching of Laakso with Kubo's system in order to ensure that control information such as power control commands are received correctly to optimize the utilization of radio resources as taught by Laakso.

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Regarding claims 2 and 13, the combination of Kubo and Laakso would show wherein the step of setting the energy comprises setting the power at which the power control command is transmitted (see col. 3, lines 43-53), as taught by Laakso.

Regarding claims 5-9 and 16-20, Kubo as modified by Laakso meet all limitations as applied above to claims 4 and 15 by determining the difference between a measured quality of the received signal and a reference and carrying out an increase or decrease of the transmit power with a transmit power control command based on the difference with the increase or decrease of the transmission power being a function of the difference, including the difference being substantially zero (see Laakso, col. 11, lines 8-38). Kubo as modified by Laakso fail to explicitly teach determining whether the difference is substantially zero whereby the decreasing or increasing of the energy at which the transmit power control command is transmitted is based on the difference being substantially zero. However, since Laakso teaches determining differences to indicate the reliability level of the power control commands and using such differences to adjust the transmission power of the power control commands, it would have been obvious to one of ordinary skill in the art to subjectively define the values of the difference at which the power control width would be increased or decreased including a value of approximating or close to zero in order to control unnecessary power consumption while reducing adverse interference to other mobile terminals in the mobile communication network.

Regarding claims 21 and 22 the combination of Kubo and Laakso meet wherein the transmit power control is performed for the uplink direction (see Laakso, col. 12,

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lines 13-62), and the apparatus is included in a base station and in the downlink direction, the apparatus being included in a remote terminal (see Laakso, col. 11, lines 8-59).

4. Claims 3 and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over **Kubo et al and Laakso et al** as applied to claims 1 and 12 above, and further in view of **Baum et al. (6,385,462)**.

Regarding claims 3 and 14, Kubo as modified by Laakso fail to specifically disclose wherein the step of setting the energy comprises adjusting the coding of the transmit power control command.

Baum discloses adaptive power allocation method for providing adaptive power allocation with selective determination of modulation and coding in a communication system, which provides flexibility to modify the adaptive power allocation (see col. 1, lines 7-15). According to Baum a modulation/coding rate is selected for each planned link for the communication system based on signal quality associated the transmit power assigned to the link (see col. 2, lines 1-27), and that by adapting the modulation/coding rate in accordance with signal quality associated with the transmit power, imperfections of power control to increase system capacity can be taken advantage of (see col. 8, lines 19-45).

It would therefore have been obvious to one of ordinary skill in the art to use the selective coding based on signal quality associated with a transmit power with the system of Kubo and Laakso for the benefit of providing flexibly adaptive power control

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while taking advantage of the imperfections of power control to increase system capacity as taught by Baum.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ahmed et al. (5,946,346) discloses a method and system for generating a power control command in a wireless communication system.

Bartelme et al. (6,445,930) discloses a power control system for communicating between a terminal unit and a base station.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Appiah whose telephone number is 703 305-4772. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 703 305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CA
February 29 2004


CHARLES APPIAH
PRIMARY EXAMINER